

The Status and Management of Bear Resources in China

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ABSTRACT There are three species of bears in China, brown bear (*Ursus arctos*), black bear (*Selenarctos thibetanus*) and sun bear (*Helarctos malayanus*). From 1991 to 1994, the investigation of bears organized by CWCA (China Wildlife Conservation Association) was conducted in 22 provinces of China. The results showed that the distribution area of bears had been changed from the continuous distribution to fragmentary. The distribution areas of three species were limited to the area of 2591427 km², and the total number of population was reduced to 61686. The distribution area of black bear was 625086 km², the population size was 46528; average density was 0.0714/km². The distribution area of brown bear was 1956691 km², the population size was 14783; average density was 0.0076/km². The distribution area of sun bear was 9650 km², the population size was from 350 to 400. There are 396 bear farms in China and the 6688 bears are being reared on these bear farms. 94.4% of them is black bears (3612); 4.5% of them is brown bears (300); 1.1% of them is sun bears (10). The management of bears in China was discussed in this paper.

Key Words: Bear resource, Status, Management

DISTRIBUTION OF BEAR RESOURCES IN CHINA

From 1991 to 1994, the investigation of bears organized by CWCA (China Wildlife Conservation Association) was conducted in 22 provinces of China. Results showed that the continuous distribution of black bears had been divided into southwest and northeast distribution area, and small fragments in southeastern areas of China. At present, the black bears distribute in northeastern edge of Inner Mongolia, Heilongjiang Province, east of Jilin and northeastern edge of Liaoning Province. These areas are joined together to form northeastern distribution area of black bears. One small distribution area was found in southeast of Anhui, southeast of Jiangxi, west of Fujian, northwest of Guangdong provinces respectively. Four distribution areas were in Guangxi Province, one in southeastern and northern areas respectively, two in middle part of the province. Eight separated distribution areas of black bear were on south of Guizhou Province, and two in north of it. Twenty five distribution areas were all small isolated insular areas. Distribution areas of black bear in the west of Hubei Province, central and east of Shanxi Province, southeast of Gansu Province, Sichuan Province, Yunnan Province and southeast of Tibet were joined together to become the largest distribution center of black bears in China, but the edge was not regular. In

addition, four small distribution areas were in south of Tibet.

Brown bears could adapt to all sorts of habitats and distributed extensively in north of Euro-America continent, and the areas from Heilongjiang river basin to the Himalayas chains. At present, brown bears disappeared from most areas because of the destroyed habitats and the human disturbance. The distribution of bears were separated to northeastern and western areas. Northeastern distribution areas included Daxing'an Mountains, Xiaoxing'an Mountains, Zhangguangcai Mountains, Laohe Mountains and Changbai Mountains. West distribution areas included Artai Mountains area, Tianshan Mountain chains, Qinghai — Tibet Plateau. Based on administrative district, brown bears distributed in the northeast of Inner — Mongolia, Heilongjiang Province, east of Jilin Province, Northeastern edge of Liaoning Province, southwest of Gansu Province, Xinjiang, major part of Qinghai, Tibet and northwest of Yunnan Province now.

Sun bears distributed extensively in south of China before, but they have disappeared in major part of southern China now. The distribution areas in south of Yunnan including Luchun, Hongsha, Jianshui, Jinping,hekou, Pingbian countries and in the west of Yunnan Province including Longchuan, Ruili, Yingjiang and Luxi countries were about 53574 km² and about 4200 km² distribution areas were in the southeast of Tibet — Mangkang and Xuzhong.

ABUNDANCE OF WILD BEAR POPULATION IN CHINA

The total number of black bear was 46258, habitat area was 652086 km², average density was 0.0714/km², ranging from 0.038 to 0.095/km². Distribution density of black bear was not even. About 15600 black bears were centered in Minshan Mountain of Gansu Province, more than 10,000 in Daxueshan Mountain of Sichuan, nearly 10,000 in Tibet, and more than 2500 each in Heilongjiang, Shanxi, Yunnan provinces respectively. In addition, about 1500 were in Hubei Province, 700 in Jilin Province, 400 in Guizhou Province. According to density, the highest distribution area of black bear was in Gansu Province, up to 0.6951/km², the second were Tibet and Anhui Province, up to 0.2/km², the lowest distribution areas were in Heilongjiang and Guangxi provinces, only 0.0072 and 0.0038/km².

Population of brown bear were 14783, and distribution area was 195669 km², average density was 0.0076/km², from 0.0023 to 0.366/km². The population were centered in Tibet (8475), Qilianshan and Minshan Mountain (4608), Qinghai and Province (1250). Inner Mongolia Daxing'an Mountains (1065), Heilongjiang Province (1136), Xinjiang (775) and Liaoning provinces (319).

About 175 Sun bears distributed in 5360 km² area located in Honghe and Dchongzhou of Yunnan Province and about 200 sun bears distributed in 4200 km² area located in Mangkang Xuzhong of Tibet.

BREEDING OF BEARS IN CHINA

Until 1992, there were 6688 bears raised on bear farms. 6312 of them were black bears, the percentage was 94.4; 300 of them were brown bears and the percentage was 4.5; only 10 of them were sun bears, and the percentage was 1.1.

2149 black bears were bred in Sichuan province, 32.1 % in total China. The second was Yunnan province, 1600 black bears, 23.9 %; 1159 (including 80 brown bears) in Jilin province, 17.3 %; 401 (295 black bears, 106 brown bears) in Heilongjiang, 380 (black bears) in Guangdong provinces; Less than 50 bears were in each of Inner Mongolia, Ningxia, Qinghai, Xinjiang, Anhui, Guizhou provinces respectively, where breeding bears business were in early stage, the total population were 624, 9.3 %.

Bears were strictly protected by the government of China and people were forbidden to game or trade illegally. At present, the main product of bear was bear bail

powder which mostly came from bear farms. Some bears physiques decreased because of bad conditions, out of date techniques and careless breeding. Some bears were even worn armour sleeveless garment and put into narrow iron cages, and this led to ill-treated phenomena called by some foreign witnesses. All of them obstructed development of bear breeding business. So some relevant administrative agencies should plan and manage bear farms according to government principles, and analyze markets, develop new products, determine quantity of products, and lead the breeding bear business and trade forward.

MANAGEMENT OF BEAR RESOURCES IN CHINA

Strengthening the Conservation of Wild Bear Resources

Human beings should pay attention to the condition of bear resources and try to increase the population of bears because bears are important and valuable natural resources in China. Therefore propagation of law of wildlife conservation should be strengthened, especially in main distribution areas of bears. People are forbidden to kill and capture bears in order to guarantee the bear resources to increase continuously.

Conservation of Habitat of Bears More important thing is to protect the habitat of bears. Conservation of population and individual of bear are necessary. Conservation and management of habitat need to be from many aspects, such as survival of wildlife, reproduction, food, water, behavior and cover condition.

Establishment of natural reserve in centered distribution area of bears is the first important thing in order to protect bear habitats. Strengthening management and enlarging the area of bears reserve at the edge of two or three provinces are important.

Moreover, managers should give space for wildlife, like bears when they manage fields for cultivation. Managers also should preserve a part of old trees which have empty holes for bear wintering. Moreover managers should offer abundant water, preserve walnut trees to bears.

Rectifying the Bear Farms and Standardizing the Bear Breeding Technique There are some aspects need to be strengthened in China:

Establishment of Stable Breeding Population of Bears

It is key to develop bear breeding population and make use of resources continuously. Some reproductive experiments on bears in captivity have been carried out, but large stable breeding populations of bears have not been established now though some progress have been made.

Strengthening to Exploit Bear Products

The difficulty of selling bear bile powder abroad led to keep the product long in stock and obstacle is in transferring money on bear farms because of restriction from some international organizations, such as CITES. A series of bear bile powder should be exploited rapidly.

Developing Research and Strengthening the International Cooperation and Exchange

Strengthening supervisory work of bear resources is based on the investigation. Meanwhile, scientific researches of reproductive ecology behavior and habitat selection of bears should be strengthened in order to offer scientific evidence of protecting and making use of resources of bears.

REFERENCES

1. 中国野生动物保护协会. 中国熊类, 猓猓, 豹猫及蛇类资源调查报告(内部资料). 1995
2. 王福麟等. 华北熊类资源的历史变迁(摘要) 第三届东亚熊类会议. 1994
3. 马逸清等. 中国的熊类. 四川科学技术出版社. 1994
4. 孙光荣等. 中国古代熊类分布. 马建章主编, 第二届东亚熊类会议论文集. 东北林业大学出版社. 1992. 48-53
5. 徐学良. 中国东北地区熊的分布历史与现状. 马建章主编, 第二届东亚熊类会议论文集. 东北林业大学出版社. 1992. 44-47

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